The Rocket Blog

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How to make a lead dioxide electrode for perchlorate synthesis

Here is a way I use to make my lead dioxide electrode

Lead dioxide forms on pure lead in dilute sulfuric acid. It use the same electrolysis procedure as to make ammonium perchlorate, however parameters change.

To make it, plug a lead electrode (a tube or a plate can do the job) to the + of the generator at about +1.5 V. Use any of those materials as cathode (- of the generator): copper, stainless steel or any other materials able to conduct electricity.
The electrodes are immersed in dilute (30%) and flowing sulfuric acid. To make it flow, you can use a fitted with a little blade like a mixer. The speed should be like a little swirl touching the electrodes. This avoid pitting the electrodes.

The electro deposition is carried out with a constant current at about 100 A/m2 for about 30 minutes.

Once you have made your electrode, you should manipulate carefully because it is a bit brittle.

Unknown at Friday, July 27, 2012

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